

## PCT COOPERATION TREATY

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents  
United States Patent and Trademark  
Office  
Box PCT  
Washington, D.C. 20231  
ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

<b>Date of mailing</b> (day/month/year) 12 January 2000 (12.01.00)	
<b>International application No.</b> PCT/GB99/01462	<b>Applicant's or agent's file reference</b>
<b>International filing date</b> (day/month/year) 10 May 1999 (10.05.99)	<b>Priority date</b> (day/month/year) 08 May 1998 (08.05.98)
<b>Applicant</b> MARLOWE, John	

1. The designated Office is hereby notified of its election made:



in the demand filed with the International Preliminary Examining Authority on:

07 December 1999 (07.12.99)



in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was

was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

<p>The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No.: (41-22) 740.14.35</p>	<p>Authorized officer: Jean-Marc Vivet</p> <p>Telephone No.: (41-22) 338.83.38</p>
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REPLACED BY  
ART 34 AMDT

PATENT COOPERATION TREATY

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REC'D 16 JUN 2000

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference JMP02	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB99/01462	International filing date (day/month/year) 10/05/1999	Priority date (day/month/year) 08/05/1998
International Patent Classification (IPC) or national classification and IPC B03C1/034		
Applicant MARLOWE, JOHN		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 5 sheets, including this cover sheet.

- ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 6 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 07/12/1999	Date of completion of this report 10/05/1999
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel: +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Stenger, M Telephone No. +49 89 2399 7353 

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/GB99/01462

**I. Basis of the report**

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

**Description, pages:**

1-26 as originally filed

**Claims, No.:**

1-32 as received on 26/05/2000 with letter of 24/05/2000

**Drawings, sheets:**

1/9-9/9 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:  
☐ the claims, Nos.:  
☐ the drawings, sheets:

3. ☒ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

**see separate sheet**

4. Additional observations, if necessary:

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/GB99/01462

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes: Claims 1-32
	No: Claims
Inventive step (IS)	Yes: Claims 1-32
	No: Claims
Industrial applicability (IA)	Yes: Claims 1-32
	No: Claims

**2. Citations and explanations**

**see separate sheet**

**VIII. Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**see separate sheet**

**Section I:**

Amendment of claim 27:

No basis for the amendment carried out on new claim 27 can be found in the application as originally filed. Furthermore, it is not clear how repelling particles from between adjacent collection units can enhance the flux lines within the collection units. Therefore, this amendment is not taken into account.

**Section V:**

1.) Independent claim 1:

Since claim 1 no longer comprises a system with only one collection unit, US-A-2149764 instead of WO-A-9704873 is now considered to represent the closest prior art.

US-A-2149764 discloses a magnetic filtration system (p.1, left c., l.1) comprising inlet and outlet means (3 and 4), in which a plurality of collection units are disposed. These collection units are formed by magnets disposed between the lower part of an upper and the upper part of a lower baffle plate 8. Successive baffle plates have opposing polarities and extend beyond all the outer edge of the magnet (see fig.3).

These plates have a plurality of apertures (22; see p.1, right c., l.44-47 and fig.3). When fluid flows by the multitude of edges and corners of the plates, the ferrous material is extracted (p.2, left c., l.2-7 and right c., l.11-15). This means, that magnetisable particles are repelled from the region defined by facing apertures (in the main flow direction). Facing collecting regions are disposed between (in a direction perpendicular to the main flow direction) facing apertures. A plurality of collection units is disposed in the system, where the magnets are disposed such that adjacent poles of magnets of adjacent collection units have the same polarity.

The subject-matter of claim 1 differs therefrom in that each collection unit comprises a plurality of plates, where plates of adjacent collection units having like polarity are disposed adjacent to one another. This substantially restricts the collection of magnetisable particles to the collection regions substantially within the interior of the collection units. In US-A-2149764, on the other hand, the ferrous material adheres also to the wires of screens 6 and 7, which blocks the flow through the device at contaminant capacity.

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/GB99/01462

WO-A-9704873 discloses a filtering system containing only one magnetic collection unit. This collection unit is identical to the one shown in fig.11 of the present application. However, no hint is given in the document to use a plurality of these collection units in one filtering system.

Therefore, the subject-matter of claim 1 has to be considered as new and inventive according to Article 33 PCT.

2.) Dependent claims 2 to 32:

Dependent claims 2 to 32 contain all the features of independent claim 1 and are therefore also new and inventive according to Article 33 PCT.

3.) Industrial applicability:

The industrial applicability of the invention is obvious.

**Section VIII:**

At some places in the description and in the drawings, filtering systems comprising only one collection unit are disclosed (see, for instance, fig.17). This is a contradiction to the claims.

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/GB 99/ 01462</b>	International filing date (day/month/year) <b>10/05/1999</b>	(Earliest) Priority Date (day/month/year) <b>08/05/1998</b>
Applicant <b>MARLOWE, JOHN</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38 2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

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☐ None of the figures.

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 99/01462

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 B03C1/034 B03C1/033 B01D35/06

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 B03C B01D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
X ✓	WO 97 04873 A (MARLOWE JOHN ;HALL HAROLD (GB)) 13 February 1997 (1997-02-13) cited in the application page 4, paragraph 2 - page 5, paragraph 3; claims 1,2,4-6,11,13; figures 1,2,5	1,2,4,5, 10,19, 25,27-29
X ✓	US 2 149 764 A (J.R.FREI) 7 March 1939 (1939-03-07) cited in the application  page 1, column 1, line 51 - page 2, column 1, line 16; claims 1-3; figures 1-3 --- -/--	1-3,6,8, 10,13, 16-18, 20,21, 29,30



Further documents are listed in the continuation of box C.



Patent family members are listed in annex

### Special categories of cited documents

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance, the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance, the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- & document member of the same patent family

Date of the actual completion of the international search

20 July 1999

Date of mailing of the international search report

26/07/1999

Name and mailing address of the ISA

European Patent Office, P B 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl.  
Fax: (+31-70) 340-3016

Authorized officer

Decanniere, L



# INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 99/01462

## C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication where appropriate of the relevant passages	Relevant to claim No
X ✓	FR 1 114 135 A (NV PHILIPS GLOEILAMPENFABRIEKEN) 9 April 1956 (1956-04-09) page 1, column 2, paragraph 7 - page 2, column 1, paragraph 1; figure 1 ---	1,2
X ✓	EP 0 374 251 A (UK I INZH VODNOGO KHOZ) 27 June 1990 (1990-06-27)  page 15, line 35 - page 18, line 10 page 27, line 36 - page 28, line 13; claims 1,3,9,20; figures 1-3 ---	1,2,6,7, 9,14,16, 18,21, 26,32,33
A ✓	DE 90 01 431 U (SYSTEM ELEKTRONIK IHLEMANN) 31 May 1990 (1990-05-31) page 1, line 1 - page 2, line 22 page 5, line 20 - line 29 page 6, line 28 - page 7, line 15; figure 2 -----	23,34

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 99/01462

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9704873	A	13-02-1997	AU 6528696 A	26-02-1997
			CN 1191499 A	26-08-1998
			EP 0840649 A	13-05-1998
			NO 980283 A	26-03-1998
			PL 324649 A	08-06-1998
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US 2149764	A	07-03-1939	NONE	
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FR 1114135	A		NONE	
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EP 0374251	A	27-06-1990	WO 8911324 A	30-11-1989
			GB 2229654 A	03-10-1990
			IN 169773 A	21-12-1991
			JP 3501097 T	14-03-1991
			US 5089128 A	18-02-1992
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DE 9001431	U	19-04-1990	NONE	
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